



THE ROLE OF MOBILE SOLUTIONS FOR PRODUCTION CONTROL & QA

How manufacturers can streamline processes, keep workers productive and empower true operational efficiency.

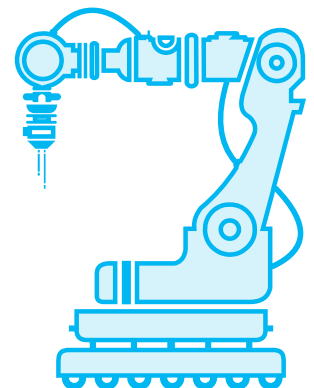
The manufacturing industry is undergoing major changes today. As companies struggle to find innovative ways to transform and improve production quality and control processes, they're increasingly turning to technology—including mobile devices and applications. Thanks to that technology, manufacturers can continue to achieve their production goals by limiting unplanned downtime, controlling costs, reducing waste, improving well-being for workers in harsh environments, and capturing and using valuable data that helps them make faster, smarter decisions.

Manufacturing industry faces significant disruptions.

Over the past decade, many manufacturing companies started digital transformation journeys to bring their organizations into line with Industry 4.0, a strategy focused on connecting physical operations and systems to back-office administrative networks. The goal is to

implement smart digital technology—including Internet of Things (IoT), automation and machine learning—across the entire integrated system so data from all points can be aggregated, analyzed and put to use to give manufacturers more detailed visibility into and control over their operations.

Progress in this journey has been slow for many manufacturers who are still in the early stages of digitalization and have a long way to go before they are fully integrated into a smart factory environment.



Since late 2019, the world's manufacturers have faced several significant challenges and disruptions that demand companies increase the pace of transformation.



Existing challenges make it hard to adapt.

Even before COVID-19 and the supply chain disruption, manufacturers were dealing with some weighty challenges. Today, those challenges continue to be factors in holding manufacturing companies back from achieving greater transformation and adaptability.



With all these challenges and disruptions, manufacturers need new ways to reduce risk, improve security, comply with regulations, and improve asset utilization and overall equipment effectiveness (OEE). They're realizing that, more than ever, they need to modernize their shop floors and production lines to embrace a more agile and productive model.

Technology and automation are critical to modernizing manufacturing.

The key to modernizing manufacturing is technology. Today's advances in automation, artificial intelligence (AI), analytics, interconnectivity, edge computing, the cloud and the Internet of Things can help manufacturers

succeed in their digital transformation journeys and give them the tools they need to overcome their industry challenges and pivot more effectively during the next unexpected disruption.

Digital transformation remains the ultimate goal.

More than half of all information and communications technology (ICT) investment will be linked to digital transformation by 2024.^{4,5}

Advanced technologies are seen by manufacturers as the answer to solving their challenges with supply chain management, risk mitigation and more: a 2022 study by Plex Systems⁶ found that 64% of organizations "agree that technology can reduce hiring challenges and fuel growth in the next five years."

Another study, by Deloitte,³ shows that 57% of manufacturers have already used advanced technologies to redesign job tasks, including automating previously manual duties.

Mobile solutions can transform production control and QA processes.

Mobile technology is a critical category of solutions that can help manufacturers achieve their goals of digital transformation, especially where it concerns production control and quality assurance (QA) processes. With mobile devices and applications, production line workers and managers can stay in close communication and gain visibility into operations so they can identify and eliminate bottlenecks, maximize throughput, minimize unplanned downtime, adjust quickly to changing demand, and reduce waste.

As manufacturers increasingly turn to AI, machine learning (ML) and other advanced technologies to drive automated production equipment, mobile technology can provide access to critical data and apps from anywhere in the facility. Additionally, the shift to using cloud-based software versus on-site legacy systems has accelerated the need for reliable mobile solutions that support a connected factory floor.



Production line workers can use mobile technology for a range of production applications:

- **Inventory management**—Gain real-time visibility into inventory so workers can monitor stock counts and expiration dates; using barcode scanners, workers can more easily track detailed information such as SKU numbers and suppliers.
- **Safety assessments**—Collaborate with multiple locations (i.e., assembly line, quality control, warehouse, etc.) to monitor potential safety risks or health hazards across the entire organization.
- **Technical information**—Provide access to safety data sheets (SDS) for information about hazards, protective measures and precautions for handling raw materials.
- **Asset inspections, maintenance and repair**—Help technicians to get into the nooks and crannies of machinery in the manufacturing plant, with the aim of preventing equipment failures.
- **Quality control**—If there is an issue on the line, a sensor sends an alert so the quality control manager can then make an adjustment before the issue is replicated.
- **Operations oversight**—More quickly access, analyze and present relevant information to ensure that all operations and departments are running smoothly.

**Panasonic Connect: Mobility Solutions for Manufacturers' Unique Needs**

If mobility solutions are the answer to solving many manufacturing needs, it's important to note that production lines and shop floors present unique challenges in selecting the right mobile solutions.



Panasonic TOUGHBOOK® mobile solutions excel in four key categories: adaptability, reliability, a rich ecosystem of software and accessories that add value to your investment, and technical services and support.

Adaptability to diverse environments and active use.

Panasonic devices are adaptable to a variety of harsh manufacturing environments and can hold up to active use.



HOW PANASONIC CONNECT HELPS

Reliability to minimize downtime.

Manufacturers can't afford to have a production line go down. Reliable devices provide consistent access to the data that helps identify potential problems so that employees can take action.



HOW PANASONIC CONNECT HELPS

An ecosystem of software and accessories.

Panasonic Connect works with industry-leading partners to provide complete solutions with industry-specific software and accessories that help workers get the most out of their rugged devices.



HOW PANASONIC CONNECT HELPS

Technical services and support.

Manufacturers need devices that come with robust service and support so they can plan for, select, deploy and manage them with ease and confidence.



HOW PANASONIC CONNECT HELPS



Mobile tools to achieve unique goals

Mobile solutions can help you more efficiently manage production and control operations to contribute to a healthy bottom line. Look for these benefits when you deploy TOUGHBOOK rugged mobile devices combined with our industry-leading accessories and services:

- Increased operational efficiency with access to real-time data that helps you improve asset tracking, optimize performance and reduce downtime
- Assurance that operations are working smoothly with mobile inspections, surveys and assessments
- Improved supply chain efficiency with reliable connectivity that extends across your distributed operations
- Worker productivity and protection with powerful, rugged mobile devices designed to work safely in hazardous conditions

TOUGHBOOK for Manufacturing.

TOUGHBOOK provides the rugged mobility solutions designed to keep manufacturers productive and efficient.



- **TOUGHBOOK S1**—A rugged Android 7" tablet with a powerful octa-core processor, support for 4G LTE connectivity and options for an extended-life warm-swap battery and integrated barcode reader.



- **TOUGHBOOK A3**—A rugged Android 10.1" tablet with octa-core processor, 4G LTE support, insertable stylus and options for an integrated barcode reader and insertable smartcard reader.



- **TOUGHBOOK G2**—A rugged 2-in-1 modular laptop/tablet with 18.5-hour battery and options for a second hot-swap battery, 5G, an infrared webcam and hazardous locations certification. Three expansion areas enable user-upgradable capabilities such as a serial port, thermal camera and more.



- **TOUGHBOOK N1**—A rugged Android handheld with an angled rear-facing barcode reader, optional stylus pen, long-lasting warm-swappable battery, built-in 4G LTE and cellular voice capabilities with dual SIM cards.



- **TOUGHBOOK 33**—A rugged 12" 2-in-1 device with 3:2 display for easy handling and improved readability—plus detachable tablet with infrared camera for Windows Hello support, hot-swappable twin batteries, rubber keyboard, and Common Access Card (CAC), barcode and fingerprint readers.



For more information on how Panasonic Connect is helping manufacturers become operationally efficient, visit our **TOUGHBOOK for Manufacturing** page or visit the **Resource Center**.

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2. The Aging Workforce: 4 Ways Manufacturers Can Prepare Themselves. Association of Equipment Manufacturers (July 15, 2021)
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4. PWC Pulse Survey: Executive Views on Business in 2022. PWC (2022)
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7. Customer Service and Client Engagement. VDC Research (2020)
8. The Case for Deploying Rugged Devices in Your Organization. IDC (November 2021)

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